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## **CHAPTER 8**

### **TRAFFIC CONTROL**

#### **8.00.00      INTRODUCTION**

#### **8.01.00      GENERAL**

The standards contained in this chapter regulate all improvements and private work to be dedicated to the public and accepted by the City and all work within the public right-of-way. They are intended to provide for adequate, coordinated, modern development with required facilities to serve and protect the potential users of the various areas of the community. All work performed according to this section must comply with the general requirements contained within Chapter 1 and the acceptance requirements of Chapter 10.

The standards in this chapter apply to new developments that are not constrained by already existing improvements. This chapter is not to be applied without qualification to in-fill development. In-fill development in an urban area is often constrained by existing improvements. To the extent deemed possible by the City, in-fill developments shall be required to conform to these STANDARDS AND SPECIFICATIONS. The City may allow modification of these STANDARDS AND SPECIFICATIONS when necessary to allow private and public construction that is compatible with surrounding in-place improvements.

#### **8.02.00      GLOSSARY OF TERMS**

AASHTO -- American Association of State Highway and Transportation Officials

Acceleration Lane -- A speed change lane, including tapered areas, for the purpose of enabling a vehicle entering a roadway to increase its speed to a rate at which it can more safely merge with through traffic.

Access -- Driveway or other point of access such as a street, road, or highway that connects to the general street system. Where two public roadways intersect, the secondary roadway shall be the access.

Approach -- The portion of an intersection leg that is used by traffic approaching the intersection.

Deceleration Lane -- A speed change lane, including tapered areas, for the purpose of enabling a vehicle that is to make an exit turn from a roadway to slow to a safe turning speed after it has left the main stream of faster-moving traffic.

Flowline -- The transition point between the gutter and the face of the curb. For a cross or valley pan, it is the center of the pan.

MUTCD -- Manual on Uniform Traffic Control Devices and the Colorado Supplement.

Sight Distance -- The length of roadway ahead visible to the driver. The minimum sight distance available should be sufficiently long to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path.

Stopping Sight Distance -- The distance traveled by the vehicle from the instant the driver of a vehicle sights an object necessitating a stop to the instant the brakes are applied and the distance required to stop the vehicle from the instant brake application begins.

## **8.10.00**

### **DESIGN STANDARDS**

#### **8.10.01 Responsibilities for Traffic Studies**

Traffic studies may be required by the City in order to adequately assess the impacts of a development proposal on the existing and/or planned street system. The primary responsibility for assessing the traffic impacts associated with a proposed development shall rest with the Responsible Party, with the City serving in a review capacity. Traffic studies may be required by the City and, if required, the format for the study may be obtained by contacting the Community Development Department.

## **8.11.00**

### **ACCESS REQUIREMENTS AND CRITERIA**

#### **8.11.01 General**

New access or changes to existing access to City streets and roadways is approved through the City of Delta Community Development Department. Application should be made to the Community Development Department and be accompanied by plans of the proposed access and technical justification for the access and associated public improvements.

The Community Development Staff is available to provide advice on the extent of technical justification required for any access request. It is recommended that this advice be sought prior to submitting any application.

In cases where property exists in the County with future plans to be annexed by the City or where a property is jointly in the City and County, the City and the County shall be contacted for access review and approval.

#### **8.11.02 State Highways**

- (A) Access to state highways is governed by the State Highway Access Code.
- (B) The City of Delta has delegated its authority to administer the State Highway Access Code to the Colorado Department of Transportation who is, therefore, responsible for the review of access permits to State Highways in the City of Delta.

#### **8.11.03 Basic Principles for Curb Openings and Driveways**

- (A) Certain control values for curb openings and driveways require minimum dimensions in some instances and maximum values for other dimensions. The design of curb openings and driveways within the range of these dimensions will provide for good service on the part of the motorist using the driveway while at the same time minimizing the interference to the traffic using the street. By controlling the location and width of openings of driveways along the street, it will be possible to avoid or eliminate long, open stretches where motorists can indiscriminately drive onto the street. The width of opening established in these STANDARDS AND SPECIFICATIONS are based on studies which indicate that the various width openings will accommodate vehicles of maximum size authorized on City streets.

- (B) The opening or driveway width should be adequate to handle properly the anticipated traffic volume and character of traffic, as well as being within the limits specified for the type of property development. The controls established for curb openings and driveways shall apply to existing streets as well as new streets that may be developed in the future.
- (C) To the greatest extent possible, all openings for driveways shall be located at the point of optimum sight distance along the street. For openings and driveways to commercial establishments and service stations, there shall be sufficient space reasonably cleared of any obstructions such that drivers entering the property will have sufficient sight distance to enable them to make proper and safe movements. The profile of a driveway approach and the grading of the adjacent area shall be such that when a vehicle is located on the driveway outside the traveled portion of street the driver can see a sufficient distance in both directions to enable him to enter the street without creating a hazardous traffic situation.
- (D) Any adjustments which must be made to utility poles, street light standards, fire hydrants, catch basins or intakes, traffic signs and signals, or other public improvements or installations which are necessary as the result of the curb openings or driveways shall be accomplished without any cost to the City of Delta. Also, any curb opening or driveway that has been abandoned shall be restored by the property owner except where such abandonment has been made at the request of or for the convenience of the City.
- (E) Driveway approaches, whereby the driveway is to serve as an entrance only or as an exit only, shall be appropriately signed by and at the expense of the property owner. The property owner will be required to provide some means of ensuring that the motorists will use the driveway either as an entrance only or an exit only, but not both.

#### **8.11.04 Definition of Terms**

Several terms are used herein which have a somewhat distinct meaning. For the purpose of clarity, the definition of some of these terms are listed below:

- (A) Width of Curb Opening (W) -- The width of curb opening measured at the curb line.
- (B) Edge Clearance (E) -- The distance measured along curb line from the nearest edge of the curb opening to a point where the property line extended intersects the curb line.
- (C) Corner Clearance (C) -- At an intersecting street, the distance measured along the curb line from the projection of the intersection street right-of-way line to the nearest edge of the curb opening.
- (D) Distance Between Double Drives (D) -- The distance measured along the curb line between the inside edges of two adjacent curb openings.
- (E) Setback (S) -- The lateral distance measured perpendicular to the street right-of-way line and extending from the right-of-way line to the closest point on a structure.
- (F) Frontage -- The distance along the street right-of-way line of a single property or development within the property lines. Corner property at an intersection would have a separate frontage along each street.

- (G) Residential -- Property used primarily for residential purposes such as single-family, two-family, and multi-family units.
  - Single-Family (SF) Residential: Single, detached family dwelling units, double bungalows, or duplexes.
  - Multi-Family (MF) Residential: Three or more attached dwelling units including townhouses, condominiums, and apartments.
- (H) Commercial -- Establishments where the buying and selling of commodities, entertainment, or services is carried on, excluding service stations. Included are such uses as office buildings, restaurants, hotels, motels, banks, grocery stores, theaters, parking lots, trailer courts, and public buildings.
- (I) Service Station -- Any property where flammable liquids such as motor vehicle fuel are used, stored, and/or dispensed from fixed equipment into fuel tanks of motor vehicles.
- (J) Industrial or Warehouse -- Any establishment that manufactures or stores an article or product.

#### **8.11.05 General Requirements**

- (A) Number of Openings:
  - 1. Single-Family Residential. In general, each single-family residential property shall be limited to one (1) access point.
  - 2. Multi-Family Residential. In general, access shall be determined by information provided by the Responsible Party to the Community Development Department.
  - 3. Commercial. In general, commercial property having less than one hundred and fifty feet (150') of frontage and located mid-block shall be limited to one (1) access point to the street. An exception to this rule may be where a building is constructed in the middle of a lot and parking is provided for on each side of the building. A second access point may be allowed for commercial property having more than one hundred fifty feet (150') of frontage. For commercial property located on a corner, one (1) access to each street may be permitted.
  - 4. Service Stations. Where there is sufficient frontage to provide for minimum and maximum requirements, two (2) access points to a street may be permitted.
  - 5. Industrial. Access shall be determined on a case-by-case basis. The City shall consider good traffic engineering practice and the information provided by the applicant.
- (B) Amount of Curb Opening Permitted:

The total length of curb opening on a street for access to a commercial property or service station shall not exceed thirty-five feet (35'). This requirement does not apply to residential-type curb openings.

(C) Entrance Angle:

In general, the entrance angle for all driveway approaches shall be as near ninety degrees (90°) to the centerline of the street as possible. The minimum angle that will be permitted is sixty degrees (60°).

(D) Minimum Space Between Openings:

The minimum spacing between curb openings shall be thirty-five feet (35') measured at the curb line. This spacing shall apply to double drives that serve a single property, as well as the distance between drives serving adjoining properties. A fifty-foot (50') spacing applies to commercial openings.

(E) Joint Entrances:

Whenever possible and feasible, joint entrances shall be provided to serve two adjacent properties. Joint entrances are to be centered on the common property line.

### **8.11.06 Control Dimensions**

To accomplish the objectives of the basic principles stated earlier, certain control dimensions are necessary. There are many variables that affect these control dimensions. Some of the variables are as follows: type of street classification, type of private property development, volume and type of traffic, and width of right-of-way.

(A) Width of Curb Opening (W):

The total width of curb opening for properties on various function street classifications shall be in conformance with the detail drawing R13 of 16 of these STANDARDS AND SPECIFICATIONS.

(B) Curb openings of thirty-five feet (35') or more shall be constructed as radius curb returns.

1. Residential. No edge clearance is required for residential access. However, the drive shall not extend beyond the property line extended.

2. Commercial.

Access onto an Arterial -- 75 Feet Minimum

Access onto a Local -- 75 Feet Minimum

NOTE: Joint access with adjoining property is encouraged. Joint access shall be the only justification for reducing the minimum edge clearance dimension.

3. Service Stations.

Access onto an Arterial -- 5 Feet Minimum

Access onto a Local -- 5 Feet Minimum

(C) Corner Clearance:

It is important to locate driveways away from major intersections. This constraint is as much for the ability to enter and leave the property as for the benefit of intersection safety and operations. Exiting a driveway during peak-hour conditions at traffic signals is difficult where the queue of standing or slow-moving vehicles never allows a sufficient gap for entry from the driveway. Corner clearness shall be reviewed and approved by the City.

(D) Sight Distance:

Sight distance for curb openings to private property shall be in accordance with Chapter 6 of these STANDARDS AND SPECIFICATIONS.

**8.20.00 CONSTRUCTION STANDARDS**

**8.21.00 TRAFFIC CONTROL IN CONSTRUCTION AREAS**

**8.21.01 General**

For any construction done on, in or to an existing City roadway and/or right-of-way or for the construction of a new City roadway, appropriate traffic control during construction shall be provided. For any such construction, a construction traffic control plan shall be prepared by the Responsible Party and shall be approved by the City Representative prior to issuance of any permits.

Where a roadway does not currently exist, it is presumed that there is no motorist expectation of a travel route. Therefore, a construction traffic control plan for construction of a new roadway should strive to do two things: alert the motorist that this is a construction area, and alert the motorist that the road is not open to traffic. Construction traffic control plans shall also be prepared for construction occurring on existing City roadways where the motorist has an expectation of accessibility and shall be warned, advised, guided or regulated through any construction activity.

**8.21.02 Time of Submittal**

A construction traffic control plan shall be submitted to the City Representative at the earliest with the submittal of final construction plans and at the latest with the application for a right-of-way or public improvement construction permit(s). All final construction plans submitted to the City of Delta that entail construction on an existing City roadway or construction of a new City roadway must either:

- (A) Be accompanied by a construction traffic control plan.
- (B) Include a note stating a construction traffic control plan shall be submitted to the City of Delta for approval before any permit for construction is issued. No right-of-way or public improvement construction permit shall be issued without the approved construction traffic control plan.

### **8.21.03 Scope of Construction Traffic Control Plan**

For construction of new roadways, traffic control during construction should strive to keep the motorist from entering the facility. The primary means to accomplish this are by use of temporary barricades located in advance of the point where new construction joins old and appropriate signing. New roadways shall not be opened to general traffic, nor the construction traffic controls removed, without the approval of the City Representative. One precondition of such an opening is that permanent signage and striping be in place.

### **8.21.04 Elements of Construction Traffic Control Plan**

- (A) All construction traffic control plans shall contain the following information:
  - 1. Name of contracting firm and, if different, the name of the firm responsible for traffic control devices.
  - 2. Name and phone number(s) of 24-hour contact person responsible for traffic control devices.
  - 3. Description of location of activity (roadway names, north arrow, etc).
- (B) Projects identified as minor construction traffic control plans as determined by the City Representative shall include, in addition to items listed in (A) above, either one of the following:
  - 1. A neat sketch of the roadways and the proposed traffic control devices; or
  - 2. A copy of a typical drawing of traffic device layout from an accepted source approved by the City Representative.
- (C) Projects identified as major construction traffic control plans as determined by the City Representative shall include, in addition to items in (A) above, the following: The proposed traffic control devices specifically identified as to type and explicitly noted and dimensioned on as-builts, construction plan drawings or other detailed drawings.

### **8.21.05 Basis for Construction Traffic Control Plan**

The Manual on Uniform Traffic Control Devices shall be the basis upon which the traffic control plan is designed in concert with proper, prudent and safe engineering practice. All necessary signing, striping, coning, barricading, flagging, etc. shall be shown on the plan. Other acceptable documents may be consulted or referenced, such as Traffic Control in Construction and Maintenance Work Zone (FHWA) or Flagging and Traffic Control Supervisor's Training Manual (CDOT).

### **8.21.06 Restriction, Regulations and Opportunities**

In concept, City streets shall not be closed overnight and work shall not force road or lane closures before 8:30 a.m. or after 3:30 p.m. If exceptions to this are required, this shall be noted on the construction traffic control plan and shall be approved by the City Representative. Travelway width may be restricted. Minimum travel lane width in construction areas shall be



ten feet (10'), but proper controls, including flagging, shall be indicated. Prohibition of on-street parking should be considered and noted where applicable.

All traffic control devices necessary to provide for public safety at the work site shall be furnished and maintained by the Responsible Party at his own expense. If the Responsible Party does not provide the approved traffic control devices, the City Representative may install such devices, and the entire costs of such devices shall be borne by Responsible Party. If the City is required to install the required traffic control devices due to negligence by the Responsible Party, a minimum administrative charge of three hundred dollars (\$300) will be assessed to the Responsible Party.

#### **8.21.07 Approval**

Staff of the City's Community Development Department must approve (sign and date) all construction traffic control plans. In general, this responsibility rests with the City Representative. All complete road closures and all partial road closures (removing one or more travel lanes) that are proposed for overnight shall be approved by the City Representative. One (1) copy of the approved plan shall remain with the Community Development Department for their verification that the traffic control plan has been adhered to in the field. One (1) copy shall be placed in the engineering project file. The Responsible Party shall have one (1) approved copy of the traffic control plan on site at all times.

#### **8.21.08 Modifications**

Actual conditions in the field may necessitate modifications to the construction traffic control plan. Provided that the general intent of the original plan is satisfied, these modifications may occur without revision to the plan. The City Representative shall be notified of any substantial changes.

#### **8.21.09 Applicability**

The requirements of this chapter shall apply to any person, corporation, municipality, quasi-municipality agencies, mutual companies, electric, gas or communication utility (including cable TV) who for any reason cuts, disturbs or otherwise defaces any City road for the purposes of installing or repairing or for any reason pertaining to the presence of an underground utility or structure.

### **8.22.00 TRAFFIC SIGNING AND PAVEMENT MARKINGS**

#### **8.22.01 General**

The installation of all traffic control devices shall conform to the Manual on Uniform Traffic Control Devices and the Colorado Standard Specifications for Road and Bridge Construction, latest edition.

#### **8.22.02 Traffic Control Devices on Public Property**

All permanently fixed traffic signals will generally be installed by the City at the Responsible Party's expense. However, if the Responsible Party submits a signage plan that is subsequently approved by the City Representative, the Responsible Party may install these traffic signs. Traffic signs shall be placed to conform to the drawing details.

### **8.22.03 Traffic Control Devices on Private Property**

- (A) Responsibility: All traffic control devices on private property; i.e., pavement markings, regulatory signs, fire lane signs, and handicapped parking signs shall be installed and maintained by the property owner.
- (B) Placement: A signage and striping plan specifying the various types and combinations of traffic control devices shall be submitted to the City Representative for approval.

### **8.22.04 Pavement Markings**

The Responsible Party shall submit a plan for all pavement markings to the City Representative for approval prior to the beginning of the work. The pavement marking plan shall meet the requirements for such work as outlined in the Manual on Uniform Traffic Control Devices. All pavement marking materials must be approved by the City Representative.

## **8.30.00 MATERIAL SPECIFICATIONS**

## **8.31.00 SIGN SPECIFICATIONS**

### **8.31.01 Sign Face Materials**

All stop signs, yield signs, and "Do Not Enter" sign faces shall be fabricated from Scotchlite reflective sheeting, high-intensity grade or approved equal. All other sign faces shall be fabricated from Scotchlite reflective sheeting, engineer grade or approved equal.

### **8.31.02 Sign Post Materials**

All sign posts shall be fabricated from 12-gauge galvanized, perforated Telespar tubing or approved equal. The sign post assembly shall consist of a two-inch by two-inch by three-foot (2"x2"x3') anchor sleeve and a one-and-three-quarter-inch by one-and-three-quarter-inch by ten-foot (1-3/4"x1-3/4"x10') post.

### **8.31.03 Fire Lane Sign Specifications**

- Size: 12 Inches by 18 Inches
- Materials: Engineer Grade Reflective Sheeting
- Colors: Sign Letters on White Background. The letter on the symbol sign shall be black.
- Wording: "No Parking" (or)  
"Fire Lane" (with appropriate arrow)
- General: Letter size, border, hole locations, and corner radii shall be per the Manual on Uniform Traffic Control Devices specifications.